

REMARKS

The independent claims 1, 9 and 25 are amended to re-introduce “plus a guard band”, so that the voltage control information transmitted by the integrated circuit corresponds to a difference between a minimum operating voltage uniquely determined for the integrated circuit plus a guard band and a predetermined nominal voltage selected for a family of integrated circuits. The operating voltage of the IC is then set based on the voltage control information. The amendments are supported in the specification, particularly at paragraphs [0041]-[45].

The predetermined nominal voltage is akin to a factory setting applied to all integrated circuits. However, as explained in the specification, some ICs may be operable below the factory setting. Reducing the operating voltage when possible lowers power consumption. The guard band accounts for inaccuracies in the test measurement.

35 USC 102/103

Applicant respectfully traverses the Examiner’s rejections. Applicant believes neither Fujioka nor DeLuca nor Halepete, whether or not applied, either singly or in combination discloses, teaches or suggests the inventions of independent claims 1, 9 or 25, as amended.

For example, the primary JP reference (Fujioka) does not determine the difference between a minimum operating voltage uniquely determined for an IC and a predetermined nominal voltage selected for a family of integrated circuits. The JP reference also does not teach or suggest setting the operating voltage of an IC based on the difference.

Instead, the JP reference uses a predetermined minimum voltage value as the operating voltage of an IC if the voltage is determined to be “effective.” Otherwise, the minimum operating voltage is re-determined using a BIST engine. The IC operating voltage is then set to the ‘new’ minimum operating voltage. This way, if the IC cannot function properly at the current minimum operating voltage, it is re-determined and used as the IC operating voltage.

Halepete teaches “the control software causes the voltage to be lowered to the calculated value (either in one or a series of incremental steps) and then recalculates the value for the time stamp counter and checks the interface timings. Applicant believes Halepete does not teach transmitting “voltage control information corresponding to a difference between a minimum

operating voltage uniquely determined for the integrated circuit and a predetermined nominal voltage selected for a family of integrated circuits.”

Further, although Justice teaches “guard bands” generally, Applicant believes Justice, either alone or in combination with the other cited references, does not teach introducing the guard band to “a minimum operating voltage uniquely determined for the integrated circuit.”

Entry of this Amendment and allowance of claims 1-16, 25 are solicited.

Respectfully submitted,
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